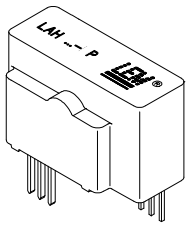
Current Transducer LAH 100-P

I_{PN} = 100 A

For the electronic measurement of currents : DC, AC, pulsed ..., with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).



Electrical data

I_{PN}	Primary nominal r.m.s. current				100		A
I_P	Primary current, measuring range [1]				0 .. 160		A
R_M	Measuring resistance @		T_A = 70°C		T_A = 85°C		
			$R_{M\,min}$	$R_{M\,max}$	$R_{M\,min}$	$R_{M\,max}$	
	with ± 12 V	@ I_{PN} [± A_{DC}]	0	63	0	57	Ω
		@ I_{PN} [A_{RMS}] [2]	0	11	0	5	Ω
	with ± 15 V	@ I_{PN} [± A_{DC}]	20	120	45	114	Ω
		@ I_{PN} [A_{RMS}] [2]	20	51	45	45	Ω
		@ I_P < I_{PN} [3]					
I_{SN}	Secondary nominal r.m.s. current				50		mA
K_N	Conversion ratio				1 : 2000		
V_C	Supply voltage (± 5 %)				± 12 .. 15		V
I_C	Current consumption				10 (@ ± 15 V)+I_S		mA
V_d	R.m.s. voltage for AC isolation test, 50/60 Hz, 1 mn				5		kV
V_b	R.m.s. rated voltage [4]				600		V

Accuracy - Dynamic performance data

X	Accuracy [5] @ I_{PN}, T_A = 25°C		± 0.25		%
ε_L	Linearity		< 0.15		%
			Typ	Max	
I_O	Offset current @ T_A = 25°C			± 0.15	mA
I_{OM}	Residual current @ I_P = 0, after an overload of 5 x I_{PN}		± 0.10	± 0.15	mA
I_{OT}	Thermal drift of I_O	0°C .. + 70°C	± 0.10	± 0.40	mA
		- 25°C .. + 85°C	± 0.10	± 0.50	mA
t_{ra}	Reaction time @ 10 % of I_{PN}		< 200		ns
t_r	Response time [6] @ 90 % of I_{PN}		< 500		ns
di/dt	di/dt accurately followed		> 200		A/µs
f	Frequency bandwidth (- 1 dB)		DC .. 200		kHz

General data

T_A	Ambient operating temperature		- 25 .. + 85	°C
T_S	Ambient storage temperature		- 40 .. + 90	°C
R_S	Secondary coil resistance	@ T_A = 70°C	115	Ω
		@ T_A = 85°C	121	Ω
m	Mass		24	g
	Standards [7]		EN 50178	

Notes : **1)** For 10 s, with $R_M \leq 25\ \Omega$ (V_C = ± 15 V) - **2)** 50 Hz Sinusoidal - **3)** The measuring resistance $R_{M\,min}$ may be lower (see "LAH Technical Information" leaflet) - **4)** Pollution class 2, cat. III - **5)** Without I_O & I_{OM} - **6)** With a di/dt of 100 A/µs - **7)** A list of corresponding tests is available.

Features

- Closed loop (compensated) current transducer using the Hall effect
- Printed circuit board mounting
- Insulated plastic case recognized according to UL 94-V0.

Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

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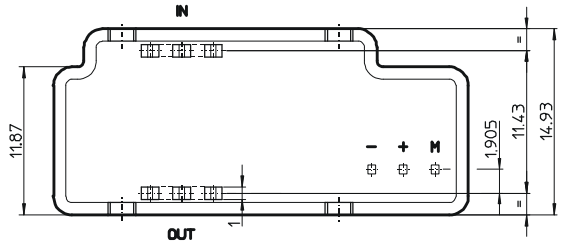
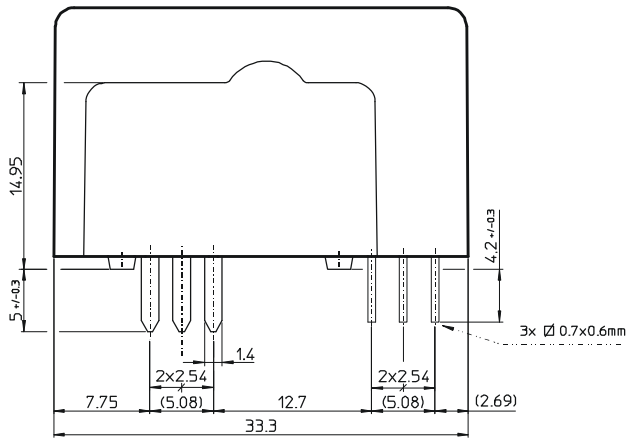
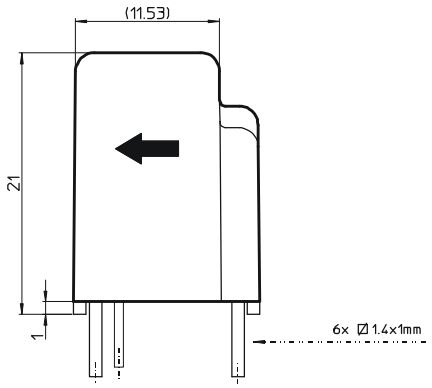
Dimensions LAH 100-P (in mm. 1 mm = 0.0394 inch)

Bottom view





Front view

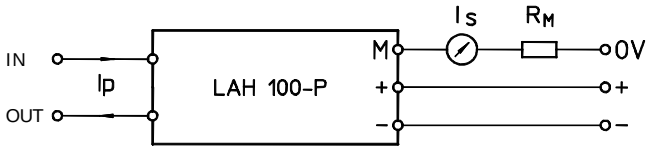


Left view

Secondary terminals

Terminal M: measure
Terminal + : supply voltage + 15 V
Terminal - : supply voltage - 15 V

Connection



Number of primary turns	Primary current nominal I_{PN} [A]	Primary current maximum I_P [A]	Nominal output current I_{SN} [mA]	Turns ratio K_N	Primary resistance R_P [mΩ]	Primary insertion inductance L_P [µH]	
1	100	160	50	1 : 2000	0.08	0.007	

Mechanical characteristics

- General tolerance ± 0.2 mm
- Fastening & connection of primary 6 pins 1.4 x 1 mm
  Recommended PCB hole 2 mm
- Fastening & connection of secondary 3 pins 0.7 x 0.6 mm
  Recommended PCB hole 1.2 mm

Remarks

- I_S is positive when I_P flows from terminals "IN" to terminals "OUT".
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.